5. Claims 1-10 should not be anticipated based on Murray (WO 99/35491).

With respect to claims 1-3, one should not assume that the glycan multimers are, in fact, cellulose. The multimers have been shown to contain glucose and to be released by a cellulase (endo-ß-1,4-glucanase) but that does not prove that they are cellulose but rather that they are ß-glucans. Although, Murray (p25, l 17-18) states the "profiles indicates that the multimers are attached to protein" there is not proof of any covalent linkage presented. Further, Murray (p25, l 24-26) only "suggests" that the linkage may extend the life of cotton fabrics.

With respect to Claim 4, Murray (P23/L10-11) only states that fibers can be degraded using a cellulase followed by a protease but does not mention it in the context of the present patent application for the purposes indicated in the title of this present patent application.

The impression that the isolation of "essentially pure cellulose" from the teaching of Murray is an over interpretation and over simplification of that document.

The impression that with respect to claims 5-10, Murray teaches that enzymatic degradation of 25DPA cotton fibers using the steps of a cellulase followed by a protease and that the products resulting from said degradation

here indicates the ability to select the particular cellulose and protease desired and to use them in a discriminatory manner to achieve the goal.

With respect to claim 6, the reference to "different pH's" is just that. In general, most cellulases have acidic pH optima near pH 4-5 while proteases may fall into classes of acidic, neutral or alkaline for their pH optima. The proteases with alkaline pH optima are usually around pH 8-9. Often times, reacting an enzyme at a pH buffered different than its pH optimum may alter the substrate specificity. This can be a desirable characteristic. For these reasons, I do not feel it is desirable to indicate specific pH's in this claim since specific cellulases and proteases are not indicated. The claim is for the general method of using specific enzymes and at specific pH's.

With respect to claims 7-10 the use of the terminology "different types" does not render the claim indefinite. I refer to the paragraph above dealing with claim 5. The terms cellulase and protease are quite specific for the types of enzymes.

For the purpose of this Office Action, "different pH's" in claim 6 may be interpreted as any pH but "different types" in claims 7-10 should only be interpreted as any type of cellulase or protease – as stated in the claims.

Claim Rejections

"improvement". So not is the degree of improvement somewhat subjective but so is "improvement" itself.

With respect to Claim 4, the term "essentially pure cellulose" is as accurate as one can describe the purity of cellulose. The term "essentially" does not render the claim indefinite. This is based on work in my laboratory about to be submitted for publication and an extensive review of the literature going back to 1837. To date, there is no accurate method for the determination of the purity of cellulose in large part due to the fact that there is no consensus in the scientific community of exactly what cellulose is! For these reasons it is unreasonable to expect a claim to state a specific level of purity.

With respect to Claim 5, the use of the term "specific" does not render the claim unclear. Claim 5 refers to cellulases which are ß-1,4-endoglucanases and proteases. There are a number of cellulases which, in most cases, are produced by fungi. Although, they all bear the same common name (cellulase) or systematic Enzyme Commission name (ß-1,4-endoglucanase) they may vary in their effectiveness on different substrates but this is not reflected in the nomenclature. It should also be pointed out that usually the substrates for cellulases are not pure ß-1,4-glucans. In the case of proteases, there are a number of proteases which are subdivided into different classes depending on which amino acid peptide linkages they cleave. So the use of the term "specific"